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HALIYUR, VENKATESH N				
ART UNIT		PAPER NUMBER		
2476				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/822,095

Applicant(s)

SHINODA ET AL.

Examiner

VENKATESH HALIYUR

Art Unit

2476

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 (claims 8, 17, 19-46 are canceled) is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

- 5) ☐ Claim(s) _____ is/are allowed.

- 6) ☒ Claim(s) 1-4, 6-7, 9-13, 15-16, 18 and 47-53 is/are rejected.

- 7) ☐ Claim(s) 5 and 14 is/are objected to.

- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/23/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-502)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment filed on 11/01/2010 has been fully considered. However the amendments necessitated a new ground(s) of rejection. Rejection follows.
2. Claims 1-53 are pending in the application. Claims 8, 17, 19-46 are canceled.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-7,9-16,18,47-53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1, 10, lines 6-7: "wherein a first communication element of the plurality of communication elements, initiating transmission to a second communication element of the plurality of communication elements", does not clearly indicate that the "transmission of signals" is being performed by first communication element.

In claims 1, 10 lines 9-13: "acknowledge a change in the voltage propagated around the first communication element as a signal" and "acknowledges the change in

the voltage between the first conductive layer and the second conductive layer as the signal". However the examiner respectfully suggests applicants to include proper antecedent basis for these limitations with clearly identifying type of signals like, the acknowledgement signal, data signal etc in independent and dependent claims (2-9 and 11-53) where necessary.

In claim 2, line 1, "A communication apparatus..." must be changed to correct the antecedent basis with "The communication apparatus..."

Appropriate corrections are required to these claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4,6-7, 9-13,15-16, 18, 47-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barber [US Pat: 7,262,702] and Reeb [US Pat: 4,792,790] further in view of Knapp [US Pat: 5,270,711].

Regarding claims 1,10, Barber disclosed a communication apparatus elements comprising: a first conductive layer and a second conductive layer **(454a and 454b of Fig 14, conductive layers, Figs 14-16)** and a plurality of

communication elements (**sensors, item 894 of Fig 22**) that are connected to the first conductive layer and the second conductive layer (**col 16, lines 54-67, col 17, lines 1-13, col 22, lines 41-50**), wherein a first communication element of the plurality of communication elements, initiating transmission to a second communication element of the plurality of communication elements, is operative to control a voltage between the first conductive layer and the second conductive layer (**col 22, lines 41-60**) letting the second communication element to acknowledge a change in the voltage propagated around the first communication element as a signal (**communication circuit, item 880 of Fig 22**), wherein the second communication element monitors for the signal from the first communication element and acknowledges the change in the voltage between the first conductive layer and the second conductive layer as the signal (**col 9, lines 1-33, col 17, lines 35-42, col 21, lines 44-65, Figs 20-21**). Barber disclosed communication element is assigned an ID identifying the second communication element (**col 8, lines 26-41, Fig 8**) and wherein the plurality of communication elements can be placed for communication without individual conductive wires (**col 8, lines 42-53, col 20, lines 56-67**), but fails to disclose the signal includes an ID identifying a recipient second communication element of the plurality of communication elements which is subsequently to receive the signal, wherein the recipient second communication element determines whether the signal is destined to the recipient second communication by referring to the ID included in the signal. However, Reeb disclosed a device that transmits

signals which includes unique identification of a particular layer sending the signal (**Fig 30, col 19, lines 5-41**). Therefore it would have been possible for one of ordinary skill in the art at the time the invention was made to use the method of transmitting source and the final destination identification in the signal as taught by Reeb in the system of Barber to include assigning second communication element an ID, identifying the elements and a recipient ID, identifying a recipient communication element of the plurality of communication elements in the signal. Barber disclosed a method for monitoring the sensor elements transmitting signals and communicating with each other by detecting the change in voltage (**col 5, lines 38-47, lines 58-63, col 22, lines, 25-60, Fig 22**), but fails to positively disclose plurality of communication elements connected to first and second conductive layers. However, Knapp disclosed a method for plurality of communication elements (sensor elements) connected to first and second conducting layers and transmission of signals between the sensor elements (**col 3, lines 28-62, col 5, lines 30-49, col 6, lines 44-58, Figs 1-2**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention is made to use plurality of communication elements connected to first and second conducting layers and transmission signals between the sensor elements as taught by Knapp in the system of Barber as modified by Reeb to include the feature of plurality of communication elements connected to first and second conductive layers and initiating transmission of signals from a first communication element to a second communication element. One is motivated

as such in order to establish a number of advantages obtained by integrating the functionality of components as taught by the references to include the feature of plurality of communication elements connected to first and second conductive layers and initiating transmission of signals from a first communication element to a second communication element and to include identification (ID) of source and destination communication elements in the transmitted signal by the sensor device (RFID) for the recipient communication element to determine whether a signal is destined to the element by referring to the ID included in the signal in order to communicate between the elements wirelessly.

Regarding claims 2, 11, Barber disclosed where the first communication element generates, as the signal, the change in the voltage between the first conductive layer and the second conductive layer, and wherein the signal propagates concentrically around the first communication elements (**col 8, lines 42-67,col 9, lines 1-47**).

Regarding claims 3-4, 12-13, Barber et al Barber disclosed communication element is assigned an ID identifying the elements (**col 8, lines 26-41, Fig 8**) but fails to disclose wherein the transmitted signal includes an ID identifying a communication element which is a final destination of the signal and wherein the transmitted signal includes an ID identifying a communication element which is an originating source of transmission of the signal. However, Reeb disclosed a device that transmits signals which includes unique identification of a particular layer sending the signal (**Fig 30, col 19, lines 5-41**).

Therefore it would have been possible for one of ordinary skill in the art at the time the invention was made to use the method of transmitting source and the final destination identification in the signal as taught by Reeb in the system of Barber to include assigning second communication element an ID, identifying the elements and a recipient ID, identifying a recipient communication element of the plurality of communication elements in the signal. Barber disclosed communication element is assigned an ID identifying the second communication element (**col 8, lines 26-41, Fig 8**) and wherein the plurality of communication elements can be placed for communication without individual conductive wires (**col 8, lines 42-53, col 20, lines 56-67**), but fails to disclose the signal includes an ID identifying a recipient second communication element of the plurality of communication elements which is subsequently to receive the signal, wherein the recipient second communication element determines whether the signal is destined to the recipient second communication by referring to the ID included in the signal. However, Reeb disclosed a device that transmits signals which includes unique identification of a particular layer sending the signal (**Fig 30, col 19, lines 5-41**). Therefore it would have been possible for one of ordinary skill in the art at the time the invention was made to use the method of transmitting source and the final destination identification in the signal as taught by Reeb in the system of Barber to include assigning second communication element an ID, identifying the elements and a recipient ID, identifying a recipient communication element of the plurality of communication elements in the signal. Barber

disclosed a method for monitoring the sensor elements transmitting signals and communicating with each other by detecting the change in voltage (**col 5, lines 38-47, lines 58-63, col 22, lines, 25-60, Fig 22**), but fails to positively disclose plurality of communication elements connected to first and second conductive layers. However, Knapp disclosed a method for plurality of communication elements (sensor elements) connected to first and second conducting layers and transmission of signals between the sensor elements (**col 3, lines 28-62,col 5, lines 30-49, col 6, lines 44-58, Figs 1-2**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention is made to use plurality of communication elements connected to first and second conducting layers and transmission signals between the sensor elements as taught by Knapp in the system of Barber as modified by Reeb to include the feature of plurality of communication elements connected to first and second conductive layers and initiating transmission of signals from a first communication element to a second communication element. One is motivated as such in order to establish a number of advantages obtained by integrating the functionality of components as taught by the references to include the feature of plurality of communication elements connected to first and second conductive layers and initiating transmission of signals from a first communication element to a second communication element and to include identification (ID) of source and destination communication elements in the transmitted signal by the sensor device (RFID) for the recipient communication element to determine whether a

signal is destined to the element by referring to the ID included in the signal in order to communicate between the elements wirelessly.

Regarding claims 6-7, 15-16, Barber disclosed wherein the first conductive layer and the second conductive layer are flat layers and wherein the first conductive layer and the second conductive layer are uniform conductive layers **(col 17, lines 1-13, Figs 14-16)**.

Regarding claim 9, 18, Barber disclosed comprising a sensor element including a circuit for measuring stress or temperature **(col 18, lines 56-67, col 19, lines 1-2)**.

Regarding claim 47, 49 Barber et al disclosed wherein the plural communication elements are laterally spaced from each other so as to not overlap each other in a direction of disposition of the first and second conductive layers **(col 21, lines 44-59)**.

Regarding claims 48, 50 Barber et al disclosed wherein the plurality of communication elements is physically disposed between the first and second conductive layers **(col 17, lines 1-13)**.

Regarding claim 51, Barber et al disclosed wherein the plural communication elements are laterally spaced from each other so as to not overlap each other in a direction of disposition of the first and second conductive layers **(col 20, lines 1-14)**.

Regarding claims 52-53, Barber disclosed wherein the plurality of communication elements each comprises a communicating unit, a processing unit and a memory (**item 390 of Fig 11, col 15, lines 7-14**).

Response to Arguments

7. Applicant's arguments with respect to claims 1-53 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

8. Claims 5, 14, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and overcome the 35 USC 112 2nd paragraph rejections made in this office action.

In response to applicant's argument that there is no teaching, suggestion, or motivation to combine the references, however the examiner respectfully disagrees as the applicant's invention is related to a broad range of industrial and medical applications as disclosed in the specification from force/tactile sensor applications to medical applications such as wearable devices and therefore the references can be combined to establish obviousness by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or

motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. In this case, Barber disclosed a method for monitoring the sensor elements transmitting signals and communicating with each other by detecting the change in voltage (col 5, lines 38-47, lines 58-63, col 22, lines, 25-60, Fig 22) and Reeb disclosed a device that transmits signals which includes unique identification of a particular layer sending the signal (Fig 30, col 19, lines 5-41) and Knapp disclosed plurality of communication elements (sensor elements) connected to first and second conducting layers and transmission of signals between the sensor elements in the related art. Therefore motivation can be established for a number of advantages obtained by integrating the functionality of components as disclosed by Barber, Reeb and Knapp to produce the claimed invention in the related art.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications should be directed to the attention to Venkatesh Haliyur whose phone number is 571-272-8616. The examiner can normally be reached on Monday-Friday from 9:00AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached @ (571)-272-7884. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571)-272-2600 or fax to 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

/Venkatesh Haliyur/

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Examiner, Art Unit 2476

/Ayaz R. Sheikh/

Supervisory Patent Examiner, Art Unit 2476